California High-Speed Train Project



Agreement No.: HSR 13-06 Book 3, Part E, Subpart 3

Record of Survey and Control Monument Data

Revision No.	Date	Description
0	01 Mar 12	Initial Release, R0
1	31 Jul 13	EXECUTION VERSION



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- (1) To be added via addendum.
- (2) Final Record to be added via addendum.
- Construction Package 1, Survey Control Monument Data and Tie Sheets within County of Madera to be added via addendum.



DEL

NORTE

HUMBOLD'

SISKIYOU

TRINITY

MENDOCINO

SAN FRANCISCO

B004F

B010P

B020P

BB30P

B040P

B050P

B060P-

B070P-

B080P

B090P

SHASTA

BUTTE

TEHAMA

GLENN

NAPA

CONTRA

LAMEDA

S204P

S214P-

S224P-S234P-

S245P-S256P

S267P-

S277P S286P-S296P S306P

S224P2-

LAKE

SONOMA

B100P

B110P-B120P-

B130P-

B140P

B150P-

B154P-

COLUSA

MODOC

LASSEN

SIERRA

TUOLUMNE

MARIPOSA

FRESN

∕B&ARB∕ARA

C. D.

T457P-

T468P-

T478P-

NEVADA

PLACER

EL DORADO

MERCED

BENITO

SAN LUIS OBISPO

KWONTEREY

ODAMA OTHEM

SAN

ZONE 1

ZONE 2

MONO

TULARE

KERN'

VENTURA

ZONE 2

ZONE 3

-C020P

-C010F -S162P

-S171P

∠S182P

-S193P

INYO

ZONE 3

ZONE 4

SAN BERNARDING

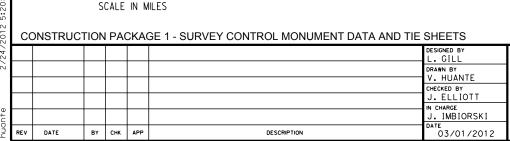
RIVERSIDE

SAN DIEGO

PLUMAS











SURVEYOR'S NOTES:

- THE EXHIBIT SHOWS THE PRIMARY SURVEY CONTROL MONUMENTS, BASED ON FIELD SURVEYS, FOR THE CALIFORNIA HIGH-SPEED TRAIN PROJECT (CHSTP).
- THE CALIFORNIA SPATIAL REFERENCE NETWORK (CSRN) WAS USED TO DETERMINE MONUMENT POSITIONS SHOWN
- POSITIONS PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE (CSRC) FOR THE CSRN IS THE BASIS FOR ALL MONUMENT POSITIONS, BOTH HORIZONTAL AND
- THE DATUM FOR HORIZONTAL POSITIONS IS THE NORTH AMERICAN DATUM OF 1983 (NAD83), NATIONAL SPATIAL REFERENCE SYSTEM OF 2007 (NSR2007).
- THE EPOCH DATE FOR ALL FOR ALL POSITIONS IS 2007.00
- THE DATUM FOR VERTICAL POSITIONS IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- THE PLANE COORDINATES SHOWN FOR EACH MONUMENT ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM
- 8. THE METHOD OF SURVEY FOR EACH MONUMENT WAS MULTIPLE OCCUPATIONS USING DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) TIES TO THE CSRN.
- ORTHOMETRIC HEIGHTS (ELEVATIONS) WERE DETERMINED BY THE USE OF A HIGH RESOLUTION GEOID MODEL GEOIDO9, AS PUBLISHED BY THE NATIONAL GEODETIC
- 10. UNITS FOR POSITIONS SHOWN HERON ARE "U.S. SURVEY FOOT" (ONE FOOT = 1200/3937 METERS).
- 11. FOR MONUMENTS LOCATED ADJACENT TO A CCS83 STATE PLANE ZONE BOUNDARY LINE, PLANE COORDINATES ARE SHOWN FOR EACH ZONE.
- 12. THE PREFIX LETTER FOR EACH MONUMENT NAME INDICATES THE SUBDIVISION NAME OF THE CHSTP: B-BAY; C-CAPITOL; D-DESERT; S-SIERRA; T-TONGVA; J-SAN JACINTO.

- 13. PRIMARY SURVEY CONTROL MONUMENT DESIGNATIONS
 HAVE THE SUFFIX LETTER "P" INDICATING A MINIMUM
 OF TWO SEPARATE ONE-HOUR OR LONGER STATIC GPS
 FIELD SURVEY OCCUPATIONS.
- 14. EQUIPMENT USED FOR DGPS SURVEYS: TRIMBLE 5700 RECEIVERS, MATCHING ZEPHYR GEODETIC ANTENNAS AND FIXED HEIGHT RODS.
- 15. POSITIONAL CONSTRAINTS APPLIED TO THE CSRN FOR THE VARIOUS DGPS ADJUSTMENT MODELS NEVER CROSSED MAJOR ACTIVE FAULTS.
- 16. FIELD SURVEYS WERE PERFORMED FROM SEPTEMBER 9, 2010 TO JANUARY 28, 2011.
- 17. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT DATA SHEET" ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY.
- 18. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT TIE SHEET" ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY.
- 19. REFER TO "SURVEY CONTROL MONUMENTS SYSTEMWIDE DATA TABLES" FOR POSITIONAL DATA.
- 20. MONUMENT S224P WILL BE DESTROYED BY NEW ROAD IMPROVEMENTS. MONUMENT S224P2 HAS BEEN SET NEARBY, OUTSIDE OF PLANNED CONSTRUCTION AREA.

LEGEND

ZONE 5 INDICATES BOUNDARY LINES BETWEEN ZONES OF THE CALIFORNIA ZONE 6 COORDINATE SYSTEM OF 1983

INDICATES SET STANDARD MONUMENT

INDICATES MONUMENT DESIGNATION STAMPED ON BRONZE MARKER XXXXX

SURVEYOR'S STATEMENT:

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME, OR UNDER MY DIRECTION, IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT, AT THE REQUEST OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY IN SEPTEMBER, 2010.

JOHN IMBIORSKI L.S. 4430

DATE

03/01/2012

CALIFORNIA HIGH-SPEED TRAIN PROJECT SURVEY CONTROL

> SURVEY CONTROL MONUMENTS SYSTEMWIDE MAP

VS-001

AS SHOWN SHEET NO.

No.<u>4430</u> Exp. 09/30/13

HIGH-SPEED

CONTROL PT.

XXXXX

LS 4430

2.5" DIAMETER BRONZE

DOMED MARKER IN CONCRETE

-D316P

-D329P

-D336P

-D346P

—D356P

—D366P

—D376P

-D386P

-D395P

IMPERIAL

ZONE 4

ZONE 5

D397P

D407P

_D417F

-D421P -D428P

-D437P

-D447P

ZONE 5

ZONE 6

DETAIL 1

	ZONE 3	(0403)		ELLIPSOID	GEOID				CCS83 ZONE 3	CCS83 ZONE 3	NAVD88					2 of 28
	STATION	NAD 83 LATITUDE	NAD 83 LONGITUDE	HEIGHT US FEET	HEIGHT (CONVERGENCE ANGLE	SCALE FACTOR	ELEVATION COMBINATI FACTOR FACT		EASTING US FEET	ELEVATION US FEET	DESCRIPTION	N			
	B004P B010P B020P	37-47-28.03656 37-43-39.89477 37-36-02.71150	122-23-21.23148 122-23-34.93581 122-23-02.37438	-95.988 -76.437 -100.347	-106.781 -	-01-09-23.93 -01-09-32.32 -01-09-12.39	0.99992942 0.99992926 0.99993260	1.00000459 0.999934 1.00000365 0.999933 1.00000480 0.999933	92 2092988.73	6014227.52	10.56 30.34 6.61	2-1/2 INCH	BRASS DISK S	TAMPED "B004P TAMPED "B010P TAMPED "B020P	LS4430 2010"	
	B030P B040P B050P	37-30-04.74660 37-24-25.37433	122-15-06.96148 122-06-37.52658 121-55-58.60959	-89.983 -60.061	-106.902 -	-01-04-21.32 -00-59-09.43	0.99993863 0.99994710 0.99995355	1.00000430 0.999942 1.00000287 0.999949 1.00000197 0.999955	93 2009762 . 51 97 1974705 . 88	6053484.48 6093937.24	16.92 47.01 65.96	2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED "BO30P TAMPED "BO40P	LS4430 2010''	
	B060P B070P B080P	37-15-10.42320 37-08-44.88213 37-01-43.93503	121-48-00.02353 121-39-31.50038 121-34-05.18184	88.428 256.284 102.438	-106.489 - -106.281 - -107.057 -	-00-52-38.27 -00-47-45.26 -00-42-33.93 -00-39-14.14	0.99996673 0.99998459 1.00000803	0.99999577 0.999962 0.99998774 0.999972 0.99999510 1.000003	250 1917181.68 233 1877651.15	6183308.34	194.92 362.57 209.49	2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED "BO6OP	LS4430 2010"	
	B090P B100P B110P	36-58-03.91222 37-02-45.22131 37-06-03.51225	121-25-07.55163 121-16-34.09708 121-07-24.35863	58.894 468.324	-107.537 -	-00-33-44.99	1.00002191 1.00000436 0.99999309	0.99999718 1.000019 0.99997760 0.999981 0.99997855 0.999971	909 1812050.27 96 1840123.58		166.43 574.38 555.23	2-1/2 INCH 2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED "B090P TAMPED "B100P TAMPED "B110P	LS4430 2010" LS4430 2010"	
	B120P B130P B140P	37-06-00.34798 37-05-45.34939 37-05-42.26397	120-55-57.53063 120-45-43.56007 120-36-09.41450	-6.617	-108 . 872 -	-00-22-54.07 -00-15-53.57 -00-09-37.68 -00-03-46.17	0.99999326 0.99999408 0.99999425	1.00000032 0.999993 1.00000064 0.999994 1.00000010 0.999994	558 1859211.00 173 1857509.43	6435486.70 6485221.77	102.25 95.41 105.96	2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED "B120P TAMPED "B130P	LS4430 2010" LS4430 2010"	
	B150P B154P C010P	37-05-40.27229 37-06-07.30586 37-13-44.34838	120-24-02.30461 120-19-44.04282 120-22-46.05440	61.286 95.467	-106.992 -106.748	00-03-38.99 00-06-17.11 00-04-25.68	0 99999436	0.99999707 0.999991 0.99999543 0.999988 0.99999567 0.9999966 0.99999733 0.999955	43 1856904 27	6590646.84 6611565.97	168.28 202.21 195.75	2-1/2 INCH	BRASS DISK S	TAMPED "B150P	LS4430 2010" LS4430 2010"	
ngb.	C020P S162P S171P	37-18-52.08478 37-05-00.66353	120-32-28.16420 120-08-49.94698 120-00-30.43866	55.879 172.439	-104.730 -	-00-01-30.71 00-12-57.57 00-18-03.38	0.99995803	0.99999733 0.999955 0.99999175 0.999988	1905870.75 36 1936975.13 31 1853076.85 49 1810823.49	6664580-14	160.61 278.95 286.44	2-1/2 INCH 2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED "CO2OP TAMPED "S162P TAMPED "S171P	LS4430 2010" LS4430 2010" LS4430 2010"	
-VS-002		36-50-00.81370			-106.136	00-21-22.05	1.00005633	0.99999070 1.000047	03 1762400.74 CCS83		300.64	2-1/2 INCH	BRASS DISK S	TAMPED "S182P		
vey\SD	STATION	NAD 83	NAD 83	ELLIPSOID HEIGHT		CONVERGENCE		ELEVATION COMBINATI	ZONE 4 ON NORTHING	ZONE 4 EASTING	NAVD88 ELEVATION					
ngs\Sur	S182P		LONGITUDE 119-55-05.93458 119-46-54.71065	US FEET 194.502 180.532	US FEET -106.136105.506 -	ANGLE -00-32-52.28 -00-27-59.22	FACTOR 0.99994731 0.99994211	FACTOR FACT 0.99999070 0.999938 0.99999136 0.999933	01 2187855.88	US FEET 6292923.69 6332518.62	US FEET 300.64 286.04	DESCRIPTION 2-1/2 INCH	BRASS DISK S	TAMPED "S182P TAMPED "S193P	LS4430 2010"	
Drawir	S193P S204P S214P S224P	36-34-35.14633 36-27-22.93081	119-44-30.21848 119-38-09.89001	169.624 162.393 138.801	-106.303 - -106.068 -	-00-26-33 . 02 -00-22-46 . 12	0.99994113	0.99999189 0.999933 0.99999223 0.999933	502 2093801.33 '35 2049872.14	6343877.62 6374608.10	275.93 268.46 245.76	2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S	TAMPED "S204P TAMPED "S214P	LS4430 2010" LS4430 2010" LS4430 2010" LS4430 2010"	Z
andard	S224P2 S234P S234P S245P	36-19-40.57910 36-10-53.78621 36-02-12.11815	119-35-23.23985 119-35-42.90083 119-35-08.69642	136.848 96.279	-107.019 -	-00-21-06.70 -00-21-18.43 -00-20-58.02 -00-18-17.38	0.99995420 0.99997063 0.99999326	0.99999336 0.999947 0.99999345 0.999947 0.99999539 0.999966 0.99999588 0.999988	.03 1949754 . 96	6386325.54 6388799.36	243.87 205.35 196.47	2-1/2 INCH 2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED 3224F TAMPED "S224P2 TAMPED "S234P	2 LS4430 2010" LS4430 2010" LS4430 2010" LS4430 2010"	RSE
ADD\S+	S256P S267P	35-53-28.80672 35-44-45.36386	119-24-49.28885	84.857	-110.557 -	-00-14-48.49 -00-13-44.13	1.00002232	0.99999594 1.000018 0.99999343 1.000051	326 1843821 . 62		195.41 248.21	2-1/2 INCH	BRASS DISK S	TAMPED "S256P TAMPED "S267P	LS4430 2010"	> Z
Rail/C	ZONE 5	(0405)		ELLIPSOID	GEOID				CCS83 ZONE 5	CCS83 ZONE 5	NAVD88					EXECUTION VERSION
Speed	STATION	NAD 83 LATITUDE	NAD 83 LONGITUDE	HEIGHT US FEET	HEIGHT (CONVERGENCE ANGLE	SCALE FACTOR	ELEVATION COMBINATI FACTOR FACT		EASTING US FEET	ELEVATION US FEET	DESCRIPTION	N			ĒX
f High	S256P S267P S277P	35-44-45.36386	119-24-49.28885 119-23-01.40870 119-19-02.31515	137.326	-110.883 -	-00-48-20.96 -00-47-19.46 -00-45-03.18	1.00007282 1.00003217	0.99999594 1.000116 0.99999343 1.000066 0.99998915 1.000021	25 2460652,92	6170038.16	195.41 248.21 337.70	2-1/2 INCH	BRASS DISK S	TAMPED "S256P TAMPED "S267P TAMPED "S277P	LS4430 2010"	13-06 -
9B Cali	S286P S296P S306P	35-29-06.51621 35-23-01.63232 35-21-55.14967	119-14-35.38619 119-07-30.19155 118-57-01.45356	239.708 261.353	-110.609 - -110.241 - -108.741 -	-00-42-31 . 02 -00-38-28 . 66 -00-32-30 . 27	1.00000408 0.99998298	0.99998915 1.000021 0.99998853 0.999992 0.99998750 0.999970 0.99998507 0.999964)48 2327874 . 00	6191556.66 6226305.36	350.32 371.59	2-1/2 INCH	BRASS DISK S	TAMPED "S296P	LS4430 2010" LS4430 2010" LS4430 2010" LS4430 2010"	R 23
11325	D316P D329P D336P	35-19-31.18825 35-16-35.11028 35-14-28.56668 35-08-44.32951	118-46-39.03954 118-41-38.15295 118-35-10.86622	797.119 1448.888 2423.546	-106.476 -	-00-26-35.49 -00-23-43.98 -00-20-03.22 -00-15-21.37	0.99997225 0.99996406 0.99995863	0.99996187 0.999934 0.99993069 0.999884 0.99988407 0.999842 0.99981542 0.999761	75 2287631.79 270 2274633.28	6329735.31 6354543.77 6386578.84	903.59 1553.69 2525.66	2-1/2 INCH 2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED "D316P TAMPED "D329P TAMPED "D336P	LS4430 2010" LS4430 2010" LS4430 2010"	Ÿ
	D346P D356P D366P	35-08-44.32951 35-05-54.70658 34-59-39.46801 34-50-04.29632	118-26-56.41331 118-17-37.34609 118-09-20.44174	3858.747 3714.549 2529.866	-100.360 - -101.448 - -104.251 -	-00-15-21.37 -00-10-02.70 -00-05-19.46	0.99994577 0.99994046 0.99993111	0.99982232 0.999762 0.99987898 0.999810	20 2239618.91 279 2222298.39 209 2184269.85	6427435.93 6473811.90 6515040.83	3959.11 3816.00 2634.12	2-1/2 INCH 2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED "D346P TAMPED "D356P TAMPED "D366P	LS4430 2010" LS4430 2010" LS4430 2010"	
+ - - -	D376P D386P D395P	34-50-04.29632 34-41-49.07215 34-34-46.90544	118-41-38.15295 118-35-10.86622 118-26-56.41331 118-17-37.34609 118-09-20.44174 118-10-00.58022 118-07-59.91459 118-07-35.48556 118-07-51.68396 118-16-55.10721 118-26-28.12813 118-30-02.49066 118-26-09.81259 118-26-09.81259	2215.861 2251.014 2576.894	-105.555 - -106.053 - -105.126 -	-00-13-21-37 -00-10-02-70 -00-05-19-46 -00-05-42-34 -00-04-19-63 -00-04-28-87 -00-09-38-62 -00-15-05-24	0.99992318 0.99992257 0.99992658	0.99989399 0.999817 0.99989231 0.999814 0.99987672 0.999803	89 2076049.00 31 2033369.06	6521596.75 6523582.70	2321.42 2357.07 2682.02	2-1/2 INCH 2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED "D376P TAMPED "D386P TAMPED "D395P	LS4430 2010" LS4430 2010" LS4430 2010"	
If_blac	D417P	34-34-46.90544 34-32-45.38254 34-29-17.49324 34-24-49.67367	118-07-51.68396 118-16-55.10721 118-26-28.12813	2877.104 2692.051 1370.182	-104.828 - -105.460 - -109.364 -	-00-04-28.87 -00-09-38.62 -00-15-05.25	0.99992850 0.99993259 0.99993935	0.99986236 0.999790 0.99987121 0.999803 0.99993445 0.999873	881 2000164 . 00	6522212.31 6476698.40 6428615.85	2981.93 2797.51 1479.55	2-1/2 INCH 2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED "D397P TAMPED "D407P TAMPED "D417P	LS4430 2010" LS4430 2010" LS4430 2010"	
HSR_ha	D421P D428P D437P	34-21-51.66837 34-16-44.53841 34-11-03.70573 34-04-24.91688	118-30-02.49066 118-26-09.81259 118-19-19.49150	1325.724 941.347 476.295	-112.133 -	-00-17-07.44 -00-14-54.81 -00-11-00.92 -00-07-44.66	0.99997070	0.99993657 0.999881 0.99995496 0.999910 0.99997721 0.999947 0.99998737 0.999978	34 1955353.11 980 1924215.19 92 1889631.30	6410567.40 6429937.53 6464258.65 6493093.35	1436.93 1053.48 588.50	2-1/2 INCH 2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED "D421P TAMPED "D428P TAMPED "D437P	LS4430 2010" LS4430 2010" LS4430 2010"	
TBL CI	D447P T457P T468P	34-04-24.91688 33-59-07.76276 33-52-56.72989	118-19-19.49150 118-13-35.17728 118-07-36.96282 117-59-55.67870	57.599 -22.285	-114.467 - -115.963 - -115.921 +	-00-07-44.66 -00-04-20.47 +00-00-02.46 +00-04-19.37	0.99999152 1.00001071 1.00003612	1.00000107 1.00003	96 1817125.82 19 1779593.98	6523186.11 6562031.01	378.44 173.56 93.64	2-1/2 INCH 2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S BRASS DISK S	TAMPED "S306P TAMPED "D316P TAMPED "D329P TAMPED "D336P TAMPED "D356P TAMPED "D356P TAMPED "D376P TAMPED "D376P TAMPED "D397P TAMPED "D407P TAMPED "D417P TAMPED "D417P TAMPED "D421P TAMPED "D428P TAMPED "D447P TAMPED "D447P TAMPED "D447P TAMPED "T457P TAMPED "T457P	LS4430 2010" LS4430 2010" LS4430 2010"	
CAHSRP.	ZONE 6	(0406)				00-04-19.31	1.00005922	0.99999805 1.000057	CCS83	CCS83		2-1/2 INCH	C NCIU CCANU	TAMPED "T478P	L3443U 2UIU	
M M	STATION	NAD 83 LATITUDE	NAD 83 LONGITUDE	ELLIPSOID HEIGHT US FEET	GEOID HEIGHT (US FEET	CONVERGENCE ANGLE	SCALE FACTOR	ELEVATION COMBINATI		ZONE 6 EASTING US FEET	NAVD88 ELEVATION	DESCRIPTION	N			
4:54:58		33-59-07.76276 33-52-56.72989	118-07-36.96282 117-59-55.67870	57.599 -22.285		-01-01-53.07 -00-57-39.59 -00-53-31.92		0.99999724 1.000015 1.00000107 1.000000 0.99999805 0.999984		5992693.05 6030902.89 6068420.46		2-1/2 INCH 2-1/2 INCH	BRASS DISK S BRASS DISK S	TAMPED "T457P	LS4430 2010" LS4430 2010"	
CO12		33-47-54.03480 ON PACKAGE 1 - SUF	RVEY CONTROL MONU			TS	0.99998690	0.9999984	223 2231959.56	0008420.46	155.51	Z-I/Z INCH	1	TAMPED "T478P		CONTRACT NO.
2/24					L. GIL DRAWN BY V. HU	_L Y							CALIFO		-SPEED TRAIN PROJECT Ey control	DRAWING NO.
Φ =					CHECKED J. ELI IN CHARG	LIOTT E		PARSONS BRINCKERHOF	F	CALL	FORN	<i>7.</i> 4			DNTROL_MONUMENTS	VS-002 SCALE NO SCALE
REV	DATE	BY CHK APP	DESCRIPTION		DATE	01/2012					D RAIL AUTHOF			SYSTEMWI	DE DATA TABLES	SHEET NO.

SHEET 1 OF 2

IN THE COUNTY OF FRESNO

RECORD OF SURVEY No. xxxx

PARSONS BRINCKERHOFF

2010 - 2011

SURVEYOR'S NOTES:

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- THE HORIZONTAL PLANE COORDINATES SHOWN FOR EACH MONUMENT IS BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83).
- THE METHOD OF SURVEY FOR EACH MONUMENT WAS MULTIPLE OCCUPATIONS USING DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) TIES TO THE CSRN.
- UNITS FOR POSITIONS SHOWN HEREON ARE "U.S. SURVEY FOOT" (ONE FOOT = 1200/3937 METERS).
- FOR MONUMENTS LOCATED ADJACENT TO A CCS83 STATE PLANE ZONE BOUNDARY LINE, HORIZONTAL PLANE COORDINATES ARE SHOWN FOR EACH ZONE.
- THE PREFIX LETTER FOR EACH MONUMENT NAME INDICATES THE SUBDIVISION NAME OF THE CHSTP: D-DESERT; S-SIERRA.
- THE CONTROL CONSISTS OF PRIMARY STATIONS ESTABLISHED AT APPROXIMATE 10-MILE INTERVALS
 AND SECONDARY STATIONS ESTABLISHED AT APPROXIMATE 2-MILE INTERVALS.
- 11. PRIMARY SURVEY CONTROL MONUMENT DESIGNATIONS HAVE THE SUFFIX LETTER "P", INDICATING A MINIMUM OF TWO SEPARATE 1—HOUR OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
- ALL OTHER SECONDARY SURVEY CONTROL STATIONS UTILITIZED REDUNDANT 30 MINUTE OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
- EQUIPMENT USED FOR DGPS SURVEYS WAS TRIMBLE 5700 RECEIVERS, MATCHING ZEPHYR GEODETIC ANTENNAS AND FIXED HEIGHT RODS.
- 14. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT DATA SHEET", ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH—SPEED RAIL AUTHORITY.
- 15. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT THE SHEET", ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH—SPEED RAIL AUTHORITY.
- 16. SEE SHEET 2 OF 2 FOR POSITIONAL DATA.

PURPOSE STATEMENT:

THIS PURPOSE OF THIS SURVEY WAS TO ESTABLISH HORIZONTAL GEODETIC CONTROL TO SUPPORT THE CALIFORNIA HIGH-SPEED TRAIN PROJECT (CHSTP).

BASIS OF BEARINGS STATEMENT:

THIS BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, ZONE 5 NAD83 (NSRS2007), EPOCH 2007.00 AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING SYSTEMS (CGPS) STATIONS 'GR8R' AND 'P572' BEARING NORTH 81'25'33.14" EAST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER.

SURVEYOR'S STATEMENT:

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY BETWEEN SEPTEMBER OF 2010 AND DECEMBER OF 2011.

JAMES JOHN MBIORSKI, L.S. 4430
LICENSE EXPIRES 09/30/13

JAMES JOHN MBIORSKI
No. 4430
Exp. 9-30-13

COUNTY SURVEYOR'S STATEMENT:

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFESSIONAL LAND SURVEYORS' ACT THIS ______ DAY OF _____, 2012.

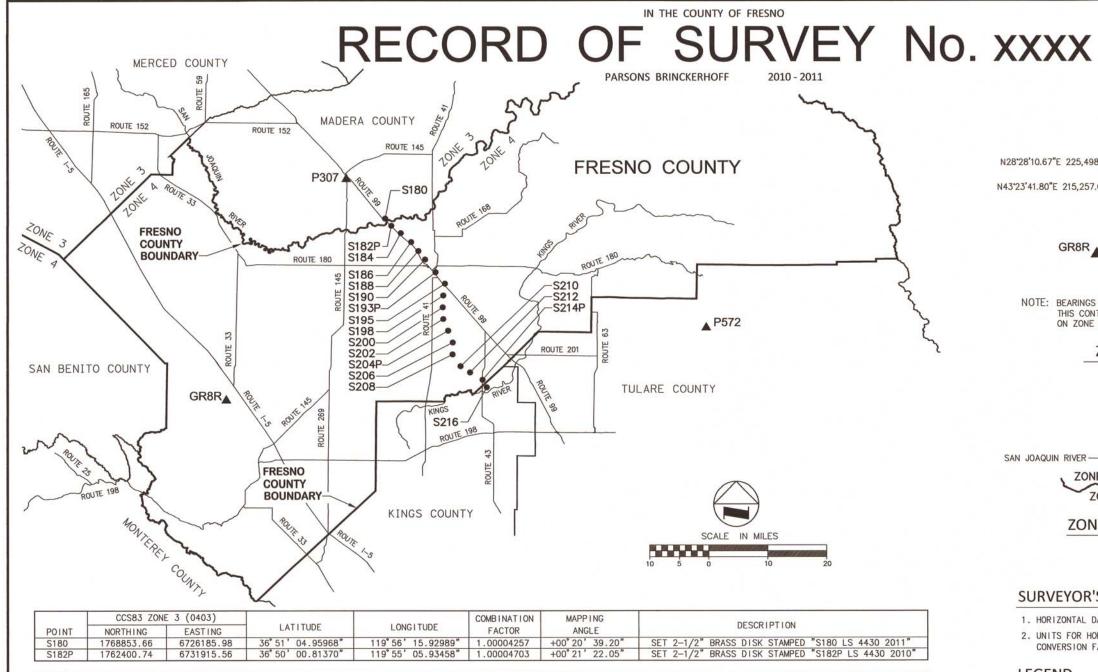
ALAN ISAAC WEAVER, P.L.S. 7009 EXPIRES 09/30/2013 COUNTY SURVEYOR

RECORDER'S STATEMENT

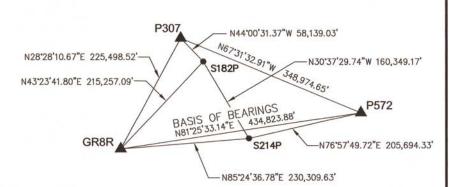
FILED THIS _____ DAY OF ______, 2012, AT _____M. IN BOOK _____ OF _____, AT THE REQUEST OF PARSONS BRINCKERHOFF.

PAUL DICTOS, COUNTY RECORDER

SHEET 2 OF 2



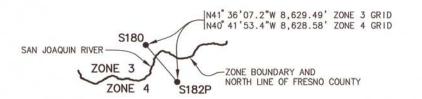
	CCS83 ZONE 4 (0404)				COMBINATION	MAPPING	DESCRIPTION
POINT	NORTHING	EASTING	LATITUDE	LONGITUDE	FACTOR	ANGLE	DESCRIPTION
S180	2194397.68	6287297.21	36° 51′ 04.95968″	119°56′ 15.92989″	0.99993960	-00° 33′ 34.04″	SET 2-1/2" BRASS DISK STAMPED "S180 LS 4430 2011"
S182P	2187855.88	6292923.69	36° 50' 00.81370"	119°55' 05.93458"	0.99993801	-00° 32' 52.28"	SET 2-1/2" BRASS DISK STAMPED "S182P LS 4430 2010
S184	2181134.27	6301461.66	36° 48′ 55.14614″	119°53′ 20.14568″	0.99993663	-00° 31' 49.17"	SET 2-1/2" BRASS DISK STAMPED "S184 LS 4430 2011"
S186	2173110.51	6310744.91	36° 47′ 36.64259″	119°51' 25.10077"	0.99993598	-00° 30′ 40.53″	SET 2-1/2" BRASS DISK STAMPED "S186 LS 4430 2011"
S188	2165149.42	6317198.08	36° 46′ 18.48573″	119°50' 04.91204"	0.99993487	-00° 29′ 52.69″	SET 2-1/2" BRASS DISK STAMPED "S188 LS 4430 2011"
S190	2157547.30	6323261.08	36° 45′ 03.83038″	119°48' 49.59979"	0.99993437	-00°29' 07.76"	SET 2-1/2" BRASS DISK STAMPED "S190 LS 4430 2011"
S193P	2146202.84	6332518.62	36° 43′ 12.41590″	119°46' 54.71065"	0.99993347	-00°27' 59.22"	SET 2-1/2" BRASS DISK STAMPED "S193P LS 4430 2010
S195	2136079.76	6340915.81	36° 41′ 32.98066″	119° 45′ 10.59429"	0.99993254	-00° 26' 57.11"	SET 2-1/2" BRASS DISK STAMPED "S195 LS 4430 2011"
S198	2125483.45	6339418.46	36° 39′ 48.08548″	119° 45′ 27.95290"	0.99993222	-00° 27′ 07.46″	SET 2-1/2" BRASS DISK STAMPED "S198 LS 4430 2011"
S200	2114907.66	6338933.28	36° 38′ 03.47121″	119° 45′ 32.88179"	0.99993224	-00° 27' 10.40"	SET 2-1/2" BRASS DISK STAMPED "S200 LS 4430 2011"
S202	2104318.67	6339455.01	36° 36' 18.80457"	119° 45' 25.45646"	0.99993259	-00°27' 05.97"	SET 2-1/2" BRASS DISK STAMPED "S202 LS 4430 2011"
S204P	2093801.33	6343877.62	36° 34′ 35.14633″	119°44' 30.21848"	0.99993302	-00° 26′ 33.02"	SET 2-1/2" BRASS DISK STAMPED "S204P LS 4430 2010
S206	2083192.34	6347990.60	36° 32′ 50.55107"	119° 43' 38.80778"	0.99993366	-00°26' 02.35"	SET 2-1/2" BRASS DISK STAMPED "S206 LS 4430 2011"
S208	2072591.33	6347825.43	36° 31' 05.71078"	119°43′ 39.84742"	0.99993528	-00°26' 02.97"	SET 2-1/2" BRASS DISK STAMPED "S208 LS 4430 2011"
S210	2061975.79	6354934.37	36° 29' 21.26248"	119°42′ 11.80407"	0.99993617	-00° 25′ 10.44″	SET 2-1/2" BRASS DISK STAMPED "S210 LS 4430 2011"
S212	2056448.07	6363427.40	36° 28′ 27.20345″	119°40′ 27.32002″	0.99993691	-00°24' 08.11"	SET 2-1/2" BRASS DISK STAMPED "S212 LS 4430 2011"
S214P	2049872.14	6374608.10	36° 27′ 22.93081″	119°38' 09.89001"	0.99993735	-00°22' 46.12"	SET 2-1/2" BRASS DISK STAMPED "S214P LS 4430 2010
S216	2043175.55	6378386.12	36° 26′ 16.95543″	119° 37′ 23.11055″	0.99993830	-00°22' 18.21"	SET 2-1/2" BRASS DISK STAMPED "S216 LS 4430 2011"
GR8R	2031442.489	6145037.029	36° 23′ 56.440565″	120° 24′ 56.579037"	0.99991613	-00°50' 40.55"	CSRN CONTINUOUSLY OPERATING REFERENCE STATION
P307	2229671.454	6252530.565	36° 56' 50.158290"	120°03' 28.457972"	0.99994859	-00° 37' 52.08"	CSRN CONTINUOUSLY OPERATING REFERENCE STATION
P572	2096269.882	6575001.228	36° 35' 07.842472"	118°57' 16.493091"	0.99975776	+00°01' 37.55"	CSRN CONTINUOUSLY OPERATING REFERENCE STATION



NOTE: BEARINGS AND DISTANCES SHOWN IN THIS CONTROL DIAGRAM ARE BASED ON ZONE 4 GRID COORDINATES.

ZONE 4 CONTROL DIAGRAM

SCALE: 1" = 20 MILES



ZONE BOUNDARY CROSSING DETAIL

SCALE: 1" = 2 MILES

SURVEYOR'S NOTES:

- 1. HORIZONTAL DATUM IS NAD83 (NSRS2007) EPOCH 2007.00
- 2. UNITS FOR HORIZONTAL STATE PLANE COORDINATES IS US SURVEY FEET. CONVERSION FACTOR: 1 FOOT = 1200/3937 METERS.

LEGEND

INDICATES CONTINUOUSLY OPERATING GPS REFERENCE STATION AND NAME CSRC POSITIONAL VALUES HELD FIXED FOR CONTROL FOR THIS SURVEY

INDICATES CALIFORNIA STATE PLANE COORDINATE SYSTEM 1983

INDICATES BOUNDARY LINE BETWEEN ZONES OF THE CALIFORNIA COORDINATE SYSTEM OF 1983 ZONE 4



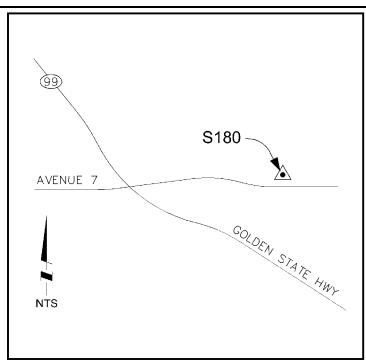
INDICATES SET 2-1/2" DIAMETER BRONZE DISK STAMPED AS SHOWN IN 1" IRON PIPE AND 8" CONCRETE PIER

XXXXX INDICATES POINT DESIGNATION (NAME)

INDICATES YEAR

Sheet

of



Designation: \$180

Date: 11/17/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the County of Madera, from the intersection of Highway 99 and Avenue 7, proceed east along Avenue 7, 0.5 mile to the Monument on the left.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 51' 04.95968" N **Longitude** : 119° 56' 15.92989" W

California Coordinate System (CCS83) US Survey Feet

Zone 3 Northing : 1768853.66

Easting: 6726185.98 **Comb. Factor:** 1.00004257

Zone 4 Northing : 2194397.68

Easting: 6287297.21 **Comb. Factor:** 0.99993960

VERTICAL

NAVD88:

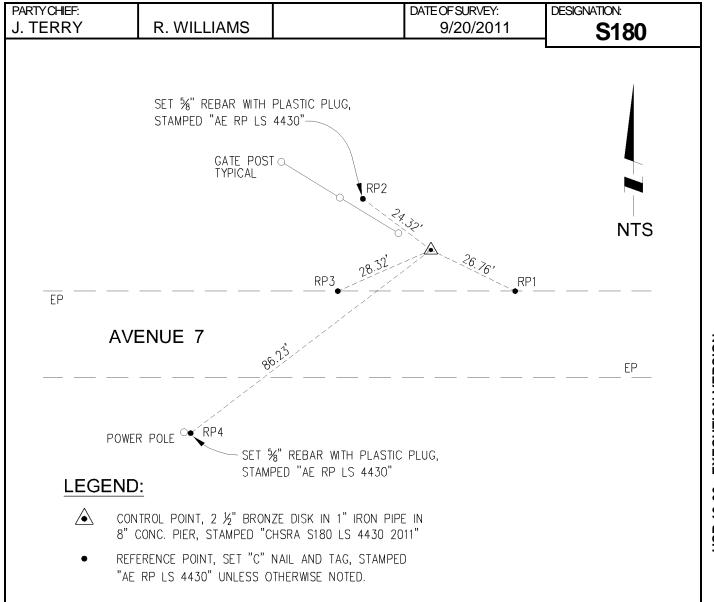
US Survey Feet Method
Not established Levels/GPS





Sheet

of



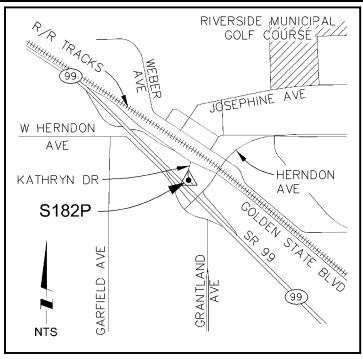
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S180			4.80			2-1/2" BRONZE DISK
	4.94					
RP4			5.15			5/8" REBAR LS 4430
	4.77					
RP3			4.51			NAIL & TAG LS 4430
	4.87					
RP2			5.12			5/8" REBAR LS 4430
	4.88					
RP1			4.58			NAIL & TAG LS 4430
	4.70					
S180						2-1/2" BRONZE DISK





Sheet

of



Designation: S182P

Date: 10/19/2010

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the County of Fresno, City of Fresno, from the intersection of Golden State Boulevard and Kathryn Drive, southeasterly 510 feet along Kathryn Drive to the monument, 1.0 feet behind the back of walk on the southwesterly side of Kathryn Drive.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 50' 00.81370" N **Longitude** : 119° 55' 05.93458" W

California Coordinate System (CCS83) US Survey Feet

Zone 3 Northing : 1762400.74

Easting: 6731915.56 **Comb. Factor:** 1.00004703

Zone 4 Northing : 2187855.88

Easting: 6292923.69 **Comb. Factor**: 0.99993801

VERTICAL

US Survey Feet Method

NAVD88: 300.64 GPS

The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.





Sheet

of

PARTYCHEF: W. Hoff	J. TERRY	R. WILLIAMS	DATE OF SURVEY: 10/19/2010	DESIGNATION: \$182P
LEGEND CO	RP2 PAD DRAINACE	SWALE ONZE DISK IN 1" IRON	PIPE IN	NTS
	FERENCE POINT, SET % AMPED "AE RP LS 4430			

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S182P			4.96			2-1/2" BRONZE DISK
	5.89					
RP2			5.57			5/8" REBAR LS 4430
	5.17					
RP1			5.31			CHISELED "X"
	4.78					
S182P						2-1/2" BRONZE DISK

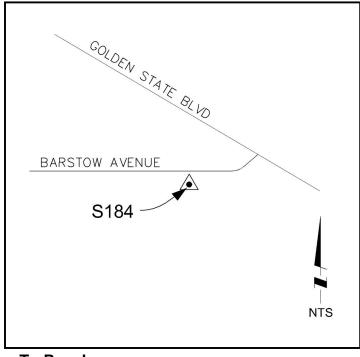




REFERENCE POINT, SET CHISELED "X" IN TOP OF CURB.

Sheet

of



Designation: \$184

Date: 11/17/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the City of Fresno, County of Fresno, from the intersection of Golden State Boulevard and Barstow Avenue, proceed westerly along Barstow Avenue, 250 feet to the Monument on the left.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 48' 55.14614" N **Longitude** : 119° 53' 20.14568" W

California Coordinate System (CCS83) US Survey Feet

Zone 4 Northing : 2181134.27

Easting: 6301461.66 **Comb. Factor:** 0.99993663

VERTICAL

NAVD88:

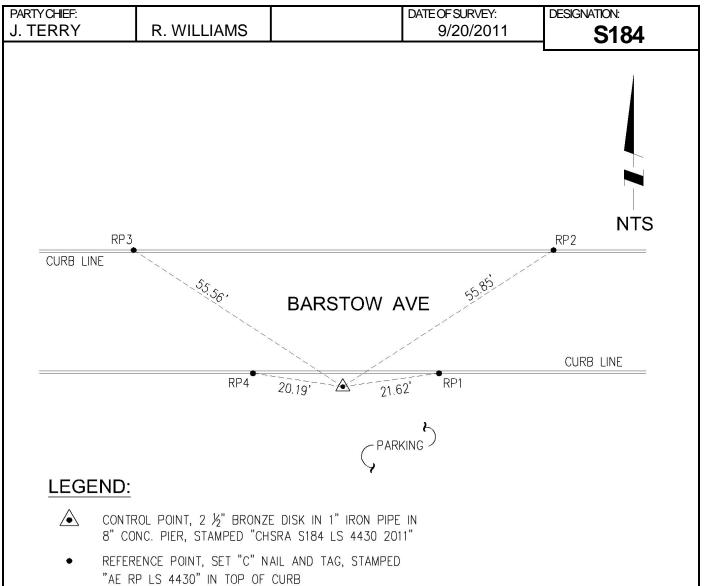
US Survey Feet Method
306.24 Levels/GPS





Sheet

of



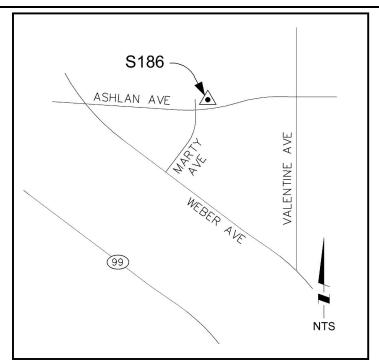
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S184			5.79			2-1/2" BRONZE DISK
	5.86					
RP4			5.65			NAIL & TAG LS 4430
	5.36					
RP3			5.52			NAIL & TAG LS 4430
	5.50					
RP2			5.24			NAIL & TAG LS 4430
	5.53					
RP1			5.71			NAIL & TAG LS 4430
	5.66					
S184						2-1/2" BRONZE DISK





Sheet

of



Designation: \$186

Date: 11/17/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the City of Fresno, County of Fresno, Monument is at the northeast corner of Ashlan Avenue and Marty Avenue.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 47' 36.64259" N **Longitude** : 119° 51' 25.10077" W

California Coordinate System (CCS83) US Survey Feet

Zone 4 Northing : 2173110.51

Easting : 6310744.91 **Comb. Factor:** 0.99993598

VERTICAL

NAVD88:

US Survey Feet Method 294.70 Levels/GPS





DESIGNATION:

SURVEY CONTROL MONUMENT TIE SHEET

Sheet

DATE OF SURVEY:

of

J. TERRY	R. WILLIAMS		9/20/2011	S186
MARTY AVENUE	42.33'	24.00 2058 - 24.00	RP1	NTS

ASHLAN AVENUE

LEGEND:

PARTY CHIEF:

CONTROL POINT, 2 ½" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S186 LS 4430 2011"

• REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S186			5.99			2-1/2" BRONZE DISK
	4.45					
RP4			4.22			NAIL & TAG LS 4430
	4.75					
RP3			4.68			NAIL & TAG LS 4430
	5.68					
RP2			5.36			NAIL & TAG LS 4430
	6.00					
RP1			6.22			NAIL & TAG LS 4430
	5.59					
S186						2-1/2" BRONZE DISK



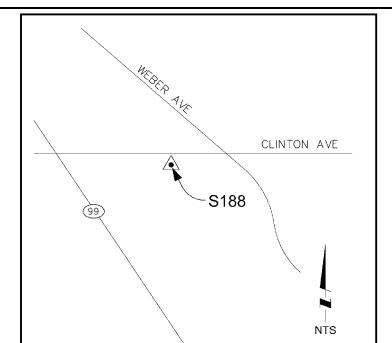


Sheet

Designation:

of

S188



Date: 11/17/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the City of Fresno, County of Fresno, from the intersection of Weber Avenue and Clinton Avenue, 150 feet west to the Monument on the left.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 46' 18.48573" N **Longitude** : 119° 50' 04.91204" W

California Coordinate System (CCS83) US Survey Feet

Zone 4 Northing : 2165149.42

Easting: 6317198.08 **Comb. Factor**: 0.99993487

VERTICAL

NAVD88:

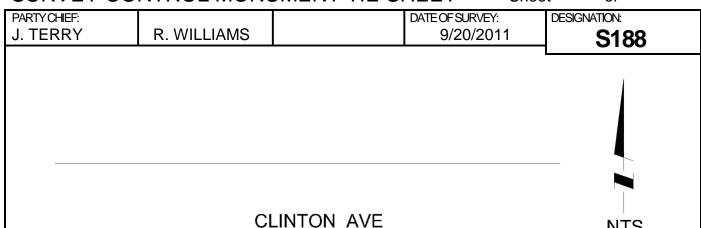
US Survey Feet Method 296.43 Levels/GPS





Sheet

NTS





LEGEND:



CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S188 LS 4430 2011"

REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" IN AC BERM.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S188			5.25			2-1/2" BRONZE DISK
	3.01					
RP4			3.30			NAIL & TAG LS 4430
	3.82					
RP3			3.46			NAIL & TAG LS 4430
	4.37					
RP2			4.60			NAIL & TAG LS 4430
	5.01					
RP1			4.69			NAIL & TAG LS 4430
	5.09					
S188						2-1/2" BRONZE DISK



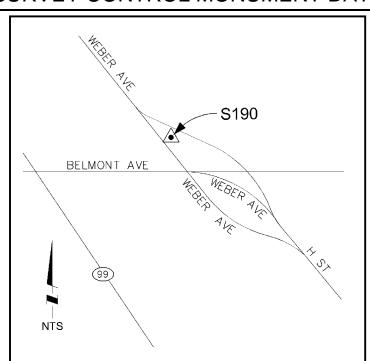


Sheet

Designation:

of

S190



Date: 11/17/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the City of Fresno, County of Fresno, Monument is 300 feet north of the Belmont Avenue and Weber Avenue split.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 45' 03.83038" N **Longitude** : 119° 48' 49.59979" W

California Coordinate System (CCS83) US Survey Feet

Zone 4 Northing : 2157547.30

Easting: 6323261.08 **Comb. Factor**: 0.99993437

VERTICAL

NAVD88:

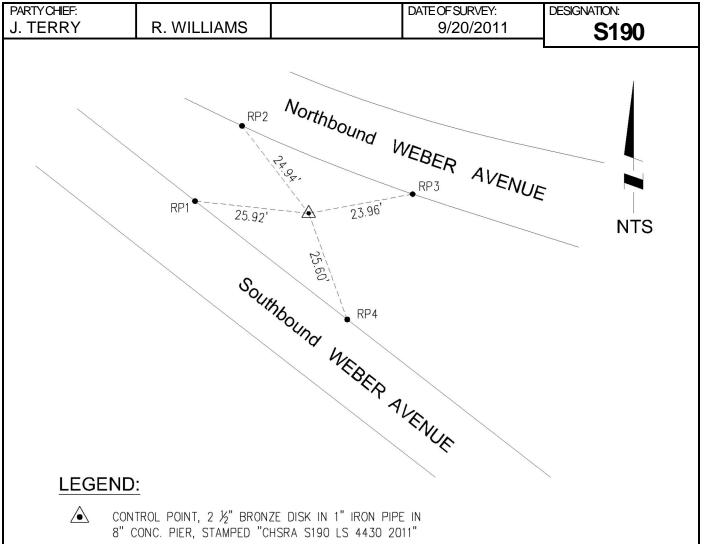
US Survey Feet Method 288.96 Levels/GPS





Sheet

of



• REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" IN TOP OF CURB

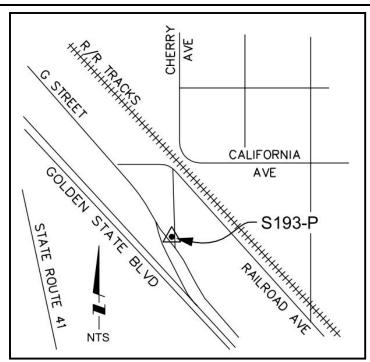
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S190			4.40			2-1/2" BRONZE DISK
	1.40					
RP4			1.70			NAIL & TAG LS 4430
	5.47					
RP3			5.29			NAIL & TAG LS 4430
	5.19					
RP2			5.43			NAIL & TAG LS 4430
	3.13					
RP1			2.93			NAIL & TAG LS 4430
	4.56					
S190						2-1/2" BRONZE DISK





Sheet

of



Designation: S193P

Date: 9/14/2010

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the City of Fresno, County of Fresno, 450 southerly along Cherry Avenue from the intersection of California Avenue, 7.8 feet westerly of the west curb face of Cherry Avenue, 11.8 feet northeasterly of the northeasterly curb face of G Street.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 43' 12.41590" N **Longitude** : 119° 46' 54.71065" W

California Coordinate System (CCS83) US Survey Feet

Zone 4 Northing : 2146202.84

Easting: 6332518.62 **Comb. Factor**: 0.99993347

VERTICAL

NAVD88:

US Survey Feet Method GPS

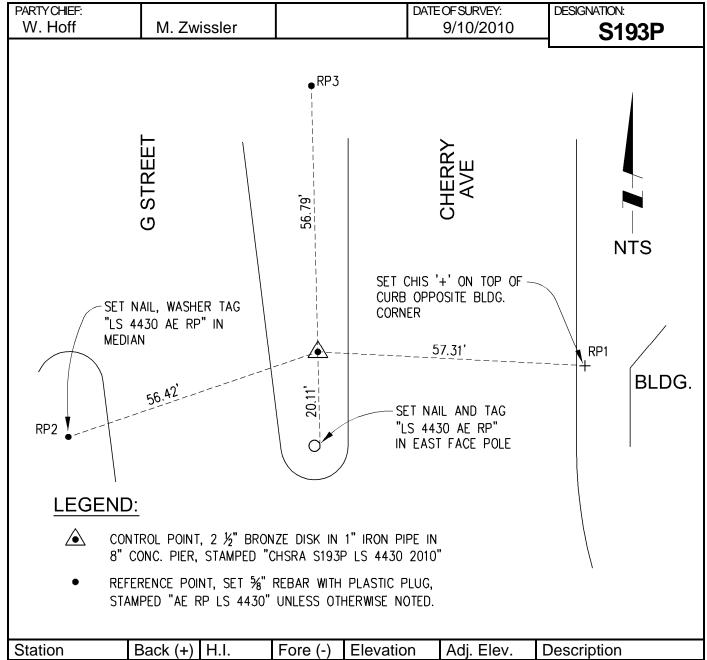
The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.





Sheet

of



Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S193-P			4.12			2-1/2" BRONZE DISK
	3.90					
RP3			4.29			5/8" REBAR LS 4430
	4.45					
RP2			4.75			NAIL & TAG LS 4430
	5.52					
RP1			5.31			CHIS. "X" IN TC
	4.60					
S193-P						2-1/2" BRONZE DISK





of

SURVEY CONTROL MONUMENT DATA SHEET

S195

NORTH AVE

FRONTAGE ROAD

NTS

Designation: \$195

Date: 11/17/2011

Sheet

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the City of Fresno, County of Fresno, Monument is at the northwest quadrant of the intersection of North Avenue and Golden State Frontage Road.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 41' 32.98066" N **Longitude** : 119° 45' 10.59429" W

California Coordinate System (CCS83) US Survey Feet

Zone 4 Northing : 2136079.76

Easting: 6340915.81 **Comb. Factor:** 0.99993254

VERTICAL

NAVD88:

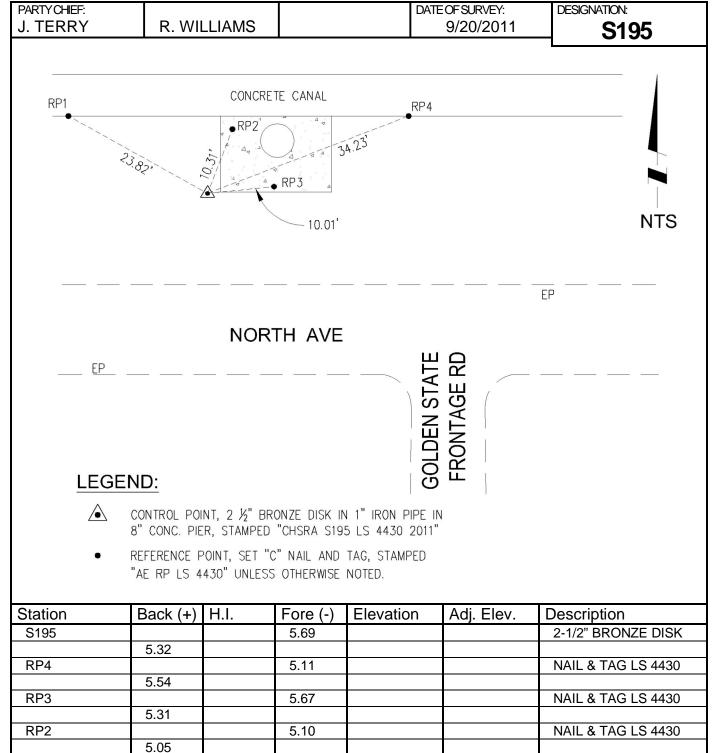
US Survey Feet Method 291.36 Levels/GPS





Sheet

of





5.59

RP1

S195



NAIL & TAG LS 4430

2-1/2" BRONZE DISK

5.24

Sheet

of



Designation: \$198

Date: 11/17/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the County of Fresno, from the intersection of Cedar Avenue and American Avenue, proceed west along American Avenue, 0.2 mile to the Monument on the left.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 39' 48.08548" N **Longitude** : 119° 45' 27.95290" W

California Coordinate System (CCS83) US Survey Feet

Zone 4 Northing : 2125483.45

Easting: 6339418.46 **Comb. Factor**: 0.99993222

VERTICAL

US Survey Feet Method

NAVD88: 288.65 Levels/GPS





Sheet

of

RTYCHEF: TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: \$198
	RP3	RP2	
	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		EP NTS
	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	AMERICAN A	VE
<u>EP</u>		/	
SET "C" NAIL	24.77" - & TAG	24.15 SET "C" NAIL	& TAG

LEGEND:

 \Diamond

CONTROL POINT, 2 $\frac{1}{2}$ " BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S198 LS 4430 2011"

• REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

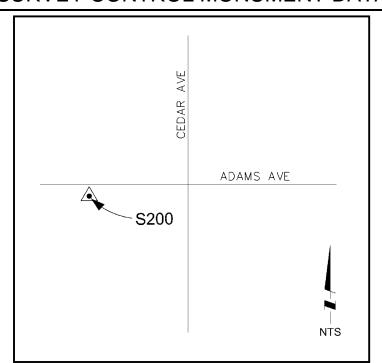
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S198			5.29			2-1/2" BRONZE DISK
	5.42					
RP1			5.14			NAIL & TAG LS 4430
	5.51					
RP2			5.74			5/8" REBAR LS 4430
	5.81					
RP3			5.46			5/8" REBAR LS 4430
	5.08					
RP4			5.31			NAIL & TAG LS 4430
	5.12					
S198						2-1/2" BRONZE DISK





Sheet

of



Designation: S200

Date: 11/17/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the County of Fresno, from the intersection of Cedar Avenue and E. Adams Avenue, proceed west along E. Adams Avenue, 0.2 mile to the Monument on the left.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 38' 03.47121" N **Longitude** : 119° 45' 32.88179" W

California Coordinate System (CCS83) US Survey Feet

Zone 4 Northing : 2114907.66

Easting: 6338933.28 **Comb. Factor**: 0.99993224

VERTICAL

US Survey Feet Method

NAVD88: 284.41 Levels/GPS





Sheet

of

PARTY CHIEF: J. TERRY R. WILLIAMS DATE OF SURVEY: 9/20/2012	DESIGNATION:
RP4 RP3 ADAMS SET "C" NAIL & TAG "IS 4430 AF RP" SET "C" NAIL & TAG "IS 4430 AF RP"	EP NTS

LEGEND:

CONTROL POINT, 2 ½" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA \$200 LS 4430 2011"

• REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S200			5.31			2-1/2" BRONZE DISK
	5.09					
RP4			5.32			5/8" REBAR LS 4430
	5.34					
RP3			5.08			5/8" REBAR LS 4430
	5.00					
RP2			5.27			NAIL & TAG LS 4430
	5.22					
RP1			5.03			NAIL & TAG LS 4430
	5.36					
S200						2-1/2" BRONZE DISK



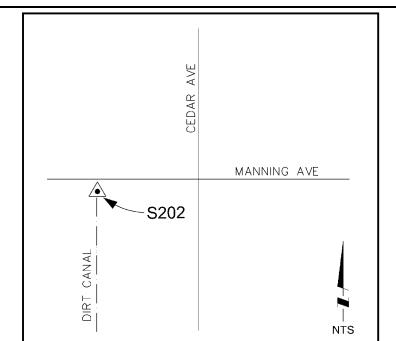


Sheet

Designation:

of

S202



Date: 11/17/2011

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the County of Fresno, from the intersection of Cedar Avenue and Manning Avenue, proceed west along Manning Avenue, 0.1 mile to the Monument on the left.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 36' 18.80457" N **Longitude** : 119° 45' 25.45646" W

California Coordinate System (CCS83) US Survey Feet

Zone 4 Northing : 2104318.67

Easting: 6339455.01 **Comb. Factor**: 0.99993259

VERTICAL

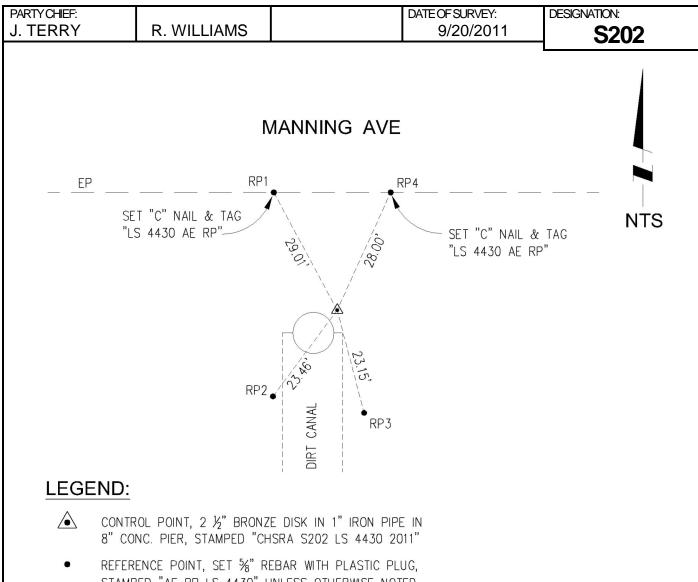
NAVD88:

US Survey Feet Method 278.34 Levels/GPS





Sheet



STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S202			5.07			2-1/2" BRONZE DISK
	5.19					
RP4			5.35			NAIL & TAG LS 4430
	5.01					
RP3			4.74			5/8" REBAR LS 4430
	5.41					
RP2			5.64			5/8" REBAR LS 4430
	5.37					
RP1			5.16			NAIL & TAG LS 4430
	4.98					
S202						2-1/2" BRONZE DISK



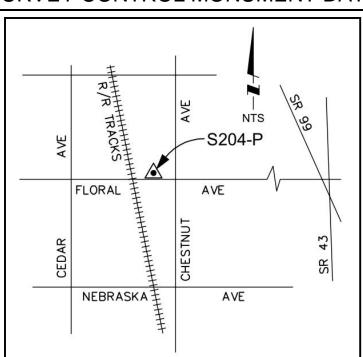


Sheet

Designation:

OI

S204P



Date: 9/14/2010

Monument Description: 2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier



To Reach:

In the County of Fresno, north side of Floral Avenue, 0.28 mile west of Chestnut Avenue, 700 feet east of the centerline of railroad tracks.

HORIZONTAL

Geodetic Coordinates Degrees Minutes Seconds

Latitude : 36° 34' 35.14633" N **Longitude** : 119° 44' 30.21848" W

California Coordinate System (CCS83) US Survey Feet

Zone 4 Northing : 2093801.33

Easting : 6343877.62 **Comb. Factor:** 0.99993302

VERTICAL

US Survey Feet Method

NAVD88: 275.93 GPS

The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.





Sheet

of

PARTYCHEF: W. Hoff	M. Zwissler		DATE OF SURVEY: 9/09/2010	DESIGNATION: \$204P
		"LS SO PO	T NAIL AND TAG S 4430 AE RP" IN UTH FACE POWER LE VZ106056	
RP3 — — —	31.70'	70.5 <u>1</u> 39.90'	RP1	NTS
<u>EP</u>	26.71	FLC	DRAL AVENUE	
	•RP2			

LEGEND:

CONTROL POINT, 2 ½" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S204P LS 4430 2010"

• REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S204-P			4.44			2-1/2" BRONZE DISK
	4.57					
RP3			5.12			5/8" REBAR LS 4430
	5.51					
RP2			5.65			5/8" REBAR LS 4430
	5.22					
RP1			4.84			5/8" REBAR LS 4430
	4.75					
S204-P						2-1/2" BRONZE DISK



